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SAN BENITO COUNTY

AMMENDED

NOISE ELEMENT

GENERAL PLAN REVISION

1980

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PREFACE

Counties and cities in the State of California have been required by law to prepare a Noise Element as one of the nine mandated elements of the General Plan. The Noise Element seeks to protect residents from noise that would jeopardize their health or welfare. Because transportation systems and industry contribute greately to noise problems in areas where there are homes, schools and hospitals, the Noise Element is closely coordinated with the Land Use and Circulation Elements.

Basic data were drawn from two major sources. First, field studies were undertaken to determine existing noise levels at key points throughout the community. Second, the Department of Transportation (CalTrans) completed a revised set of noise level maps along the state highways within the County in November of 1980. These data were combined to provide input into this Noise Element.

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NOISE ELEMENT

LEGISLATIVE INTENT

The California Government Code Section 65302(g) states in part:

> "... A noise element which shall recognize guidelines adopted by the Office of Noise Control pursuant to Section 39850.1 of the Health and Safety Code, and which quantifies the community noise environment in terms of noise exposure contours for both near and long-term levels of growth and traffic activity. Such noise exposure information shall become a guideline for use in development of the Land Use Element to achieve noise compatible land use and also to provide baseline levels and noise source identification for local noise ordinance enforcement..."

The Noise Element seeks to protect community residents from noise that would jeopardize their health or welfare. Because transportaton systems and industry are primary contributors to noise problems in areas where there are homes, schools and hospitals, the noise element should greatly influence proposals for the type and location of land uses and transportation facilities in the Land Use and Circulation Elements. This Noise Element specifies how noise policies and standards are to be implemented through zoning and the local noise ordinance.

COUNTYWIDE POLICIES AND OBJECTIVES

(As they relate to the Noise Element)

1. The maintenance of the County's existing rural atmosphere.
2. Encourage industry which is sensitive to and compatible with the environment and surrounding land uses.
3. The encouragement of building in areas that are not environmentally sensitive.

INTRODUCTION

Excessive noise is considered to be a form of environmental pollution. Noise can be defined as those sounds which are "unwanted", i.e. intrusive, harsh, annoying or detrimental to the health, safety and welfare of the public. The continual increase in the community noise level is recognized as a major factor in producing the tensions caused by modern living. Statistics indicate that cumulative impacts of noise are responsible for rising rates in stress-related problems such as mental illness, heart disease, ulcers and divorce. Table 1 gives the yearly average equivalent sound levels identified as requisite to protect the public health and welfare with an adequate margin of safety.

In response to the wide range of detrimental effects associated with excessive noise, the State of California has required that the Noise Element be included as one of the nine mandatory elements which make up the General Plan. This element is designed to provide guidelines for the control of exposure to excessive environmental noise together with the aim of achieving noise compatible land use in conjunction with the policies of the Land Use Element.

CHARACTERISTICS OF SOUND

We are constantly surrounded by sound stemming from a wide variety of sources, including people, machinery and transportation related sources. Scientifically, sound is the vibration of molecules through a medium such as air, water, or a solid affecting the hearing mechanism.

Sound, a type of energy, consists of three characteristics: An amplitude, a frequency and a duration. It radiates from a source in a spherical manner with the intensity of the sound decreasing as the distance from the source increases.

Noise can be defined as "unwanted" sound. However, it is a subjective term in that it depends upon a number of factors including distance from the sound source, the physical condition of the ear and individual preferences. Sound is most often considered annoying and intrusive when it is harsh, loud, high pitched, irregular or intermittent.

TABLE 1

YEARLY AVERAGE* EQUIVALENT SOUND LEVELS IDENTIFIED AS REQUISITE TO PROTECT THE PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY

	Measure	Indoor			Outdoor		
		Activity Interference	Hearing Loss Consideration	To Protect Against Both Effects (b)	Activity Interference	Hearing Loss Consideration	To Protect Against Both Effects (b)
Residential with Outside Space and Farm Residences	L_{dn}	45		45	55		55
	$L_{eq(24)}$		70			70	
Residential with No Outside Space	L_{dn}	45		45			
	$L_{eq(24)}$		70				
Commercial	$L_{eq(24)}$	(a)	70	70(c)	(a)	70	70(c)
Inside Transportation	$L_{eq(24)}$	(a)	70	(a)			
Industrial	$L_{eq\ (24)(d)}$	(a)	70	70(c)	(a)	70	70(c)
Hospitals	L_{dn}	45		45	55		
	$L_{eq(24)}$		70			70	55
Educational	$L_{eq(24)}$	45		45	55		55
	$L_{eq(24)(d)}$		70			70	
Recreational Areas	$L_{eq(24)}$	(a)	70	70(c)	(a)	70	70(c)
Farm Land and General Unpopulated Land	$L_{eq(24)}$				(a)	70	70(c)

CODE:

A. Since different types of activities appear to be associated with different levels, identification of a maximum level for activity interference may be difficult except in those circumstances where speech communication is a critical activity.

B. Based on lowest level.

C. Based only on hearing loss.

D. An $L_{eq(8)}$ of 75 dB may be identified in these situations so long as the exposure ove the remaining 16 hours per day is low enough to result in a negligible contribution to the 24-hour average, i.e., no greater than an L_{eq} of 60 dB.

NOTE: Explanation of identified level for hearing loss: The exposure period which results in hearing loss at the identified level is a period of 40 years.

SOURCE: Information on levels of environmental noise requisite protect public health and welfare with an adequate marain of safety, March, 1974, prepared by U.S. Environmental Protection Agency.

MEASUREMENT OF SOUND

DECIBEL

The unit chosen for measuring variations in ear pressure associated with sound waves is the decibel (dB). The decibel is measured on a logarithmic scale with a base 10. For every arithmetic increase in decibels, which is a net gain of 10, the sound energy increases geometrically 10 times. In terms of loudness, a sound 10 times greater than another is perceived by the human ear as being twice as loud as the first rather than 10 times as loud as one might have assumed.

SOUND LEVEL DESCRIPTORS

Noise measurement formulas have been developed for the measure of community noise. The three formulas most frequently used in California are the Community Noise Equivalent Level (CNEL), the day-night average sound level (L_{dn}) and the equivalent sound level (L_{eq}).

CNEL - The average equivalent A-weighted sound level during a 24 hour day attained after addition of 5 decibels in the evening from 7 p.m. to 10 p.m. and after addition of 10 decibels in the night before 7 a.m. and after 10 p.m.

L_{dn} - The average equivalent A-weighted sound level during a 24 hour day attained after addition of 10 decibels in the night before 7 a.m. and after 10 p.m.

L_{eq} - The sound level corresponding to a steady state sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24 hour sample periods. This index takes into account differences between human reaction to day and night time noise. This method characterises night time noise as more severe than the same noise occuring in daytime and applies a weighting factor to noise occuring at night.

SOUND LEVEL METER

Sound pressure is air pressure which oscillates above and below atmospheric pressure at the instant a sound is generated. A sound level meter is an instrument that measures sound pressure. Basically, it contains a microphone, amplifier, weighting networks and an indicator.

Weighting scales are filters used on sound level meters to alternate sound frequencies so that the response of the average human ear is

simulated. Weighting scales relate sound pressure level and frequency to apparent loudness, the extent of which can be indicated on the sound level meter. The most commonly used sound level meter utilizes the A-weighted filter. The A-weighting network de-emphasizes the very low and very high frequency components of sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise. The B and C scales are primarily utilized to measure the ambient sound level in areas where sound sources have a wider frequency range than established for the A scale. The D scale has been developed for the purpose of measuring jet aircraft.

IMPACTS OF EXCESSIVE NOISE LEVELS ON FARM ANIMALS AND WILDLIFE

The effects of noise pollution on farm animals and wildlife is a source of concern in rural areas such as San Benito County which supports a high volume of agricultural uses. As urban development encroaches at an increasingly high rate on previously remote areas, wildlife is in danger of exposure to noise pollution never before experienced in those areas. This form of intrusion constitutes a potential danger for those fragile ecosystems which previously existed without interference from mankind. While the extent of the potential for both short and long term damage is unknown at this time, it is known that mankind's tampering with the balance of nature in the past has had severe adverse consequences for both mankind and forms of wildlife.

Possible effects of noise pollution on farm animals include inhibited incubation of eggs and milk production, changes in weight and irregular mating behavior. It is clear that sounds of certain frequencies or intensity can adversely affect normal patterns of animal existence.

INDIVIDUAL RESPONSE TO NOISE LEVELS

Due to the subjective nature of individual reactions to noise, it is difficult to determine sound levels which are universally acceptable. Through research conducted on peoples response to various types and levels of noise, general standards have been arrived at with concern to which noise levels are generally acceptable to most people. The following three tables are a result of studies conducted to determine which sound levels people generally prefer, which sound levels are considered to be acceptable, and the intensity of peoples response to incremental noise level increases.

TABLE 2

SOUND LEVELS PEOPLE WANT

Location	Sound Level in db-A	
	Day	Night
Rural Residential	35	25
Suburban Residential	40	30
Urban Residential	45	35
Commercial	55	45
Industrial	60	50

TABLE 3

SOUND LEVELS PEOPLE WILL ACCEPT WITHOUT UNDUE COMPLAINT

Location	Sound Level in db-A	
	Day	Night
Rural Residential	35-45	25-35
Suburban Residential	40-50	30-40
Urban Residential	45-55	35-45
Commercial	55-65	45-55
Industrial	60-70	50-60

TABLE 4

ESTIMATED COMMUNITY RESPONSE TO SOUND LEVEL INCREASES

Sound Level in db-A Above the Acceptable Level	Estimated Community Response
0	No observed reaction
5	Sporadic complaints
10	Wide spread complaints
15	Threats of action
20	Vigorous action

Source Tables 2,3 and 4: A Report to the 1971 Legislature on the Subject of Noise Pursuant to Assembly Concurrent Resolution 165 (Sacramento: California Department of Public Health, 1971) page 34.

SOURCES OF ENVIRONMENTAL NOISE

In general, there are four major sources of noise in San Benito County: (1) roadways; (2) airports; (3) railroads and, (4) stationary sources such as industrial plants. Ground and air transportation are the greatest sources of noise pollution in the County. However, due to the rural nature of the County, there are no major conflicts between noise generators and residents in the unincorporated area of the County.

ROADWAYS

Within San Benito County, the State and Federal Highways serve as the main circulation networks. These roads include U.S. Highway 101, State Highway 156, State Highway 129, and State Highway 25. The California Department of Transportation (Caltrans) has prepared noise exposure data and contours expressed in dBA (Ldn) for all of these Federal, Interstate, and State Highways in San Benito County. This data tabulates the Ldn levels for 5 dBA increments at the different distances from the center of the near lane of the highway. These noise levels represent predicted 1980 and 2000 levels, and are shown in Appendix____. The 1980 noise exposure contours are also shown graphically in Appendix B .

The Caltrans maps also delineate select arterials within the County. The Planning Department has used these maps along with their own information to develop a list of the County's major arterials. The County Road Department performs monthly traffic counts on these major arterials using both 24-hour and seven-day counts. These counts have been averaged over a period from January 1983 to April 1984 to produce average daily traffic (ADT) for these arterials. The County Planning Department has also projected future ADT's based on population projections and land use trends for the County and the average number of trips generated by such uses. The list of the County's major arterials along

with their existing and projected ADT's is shown in Table 5 .

According to the State Office of Noise Control, (Russ Dupree, State Office of Noise Control, 5/4/84, phone conversation) road noise becomes a concern when traffic counts approach 20,000 vehicles per day (24-hour period). When traffic approaches these levels, the Office of Noise Control recommends that the noise levels be quantified in terms of noise exposure contours. As Table ___ shows, the average daily traffic counts on the County's major arterials do not even come close to approaching 20,000 vehicles a day. Traffic counts on these roads range from 54 to 2306 vehicles a day.

For flows under 20,000 vehicles per day, the State Office of Noise Control has developed the following general rules of thumb.

Low Speed Highways:	L_{dn} = 65 dB within 100' of the roadway. 60 dB or less beyond 100'.
High Speed Highways:	L_{dn} = 70 dB within 100' of the roadway. L_{dn} = 65 dB between 100 & 200' from the roadway. 60 dB or less beyond 200'.

Source: Swing, Jack; Estimation of Community Noise Exposure in Terms of Day-Night Average Level Noise Contours, May 1975.

TABLE 5

AVERAGE DAILY TRAFFIC COUNTS (ADT)

FOR MAJOR ARTERIALS

ROAD	1983-84	ESTIMATED ADT IN 2005
Sunnyslope Rd.	2306	3800
Shore Rd.	2267	3736
Fairview Rd.	1906	3141
Union Rd.	1727	2846
San Juan Hwy.	1436	2366
Nash Rd.	1391	2292
Cienega Rd.	1324	2182
McCloskey Rd.	1132	1865
Hillcrest Rd. (counts taken 4/79, 4/80, & 4/81)	1027	1692
San Felipe Rd.	972	1602
Southside Rd.	826	1361
San Juan Cyn. Rd.	337	621
Little Panoche Rd.	106	175
Panoche Rd.	54	89

Source: San Benito County Road Department; Traffic counts from January 1983 to April 1984.

RAILROADS

San Benito County is also affected by the noise of rail operations. Line operations in San Benito County are characterized by the passage of trains at wide time intervals but with individual trains emitting a high sound level. Noise is generated mainly by the engines in the locomotives and the interaction of wheels and rails. The noise levels from the cars (though not from the locomotive) tend to increase quite significantly with increasing speed. Other factors which influence railroad noise include, type of train (passenger vs. freight), presence of helper engines, type of track, presence of switching frogs or grade crossings, tight radius curves, presence of bridgework, and wheel conditions.

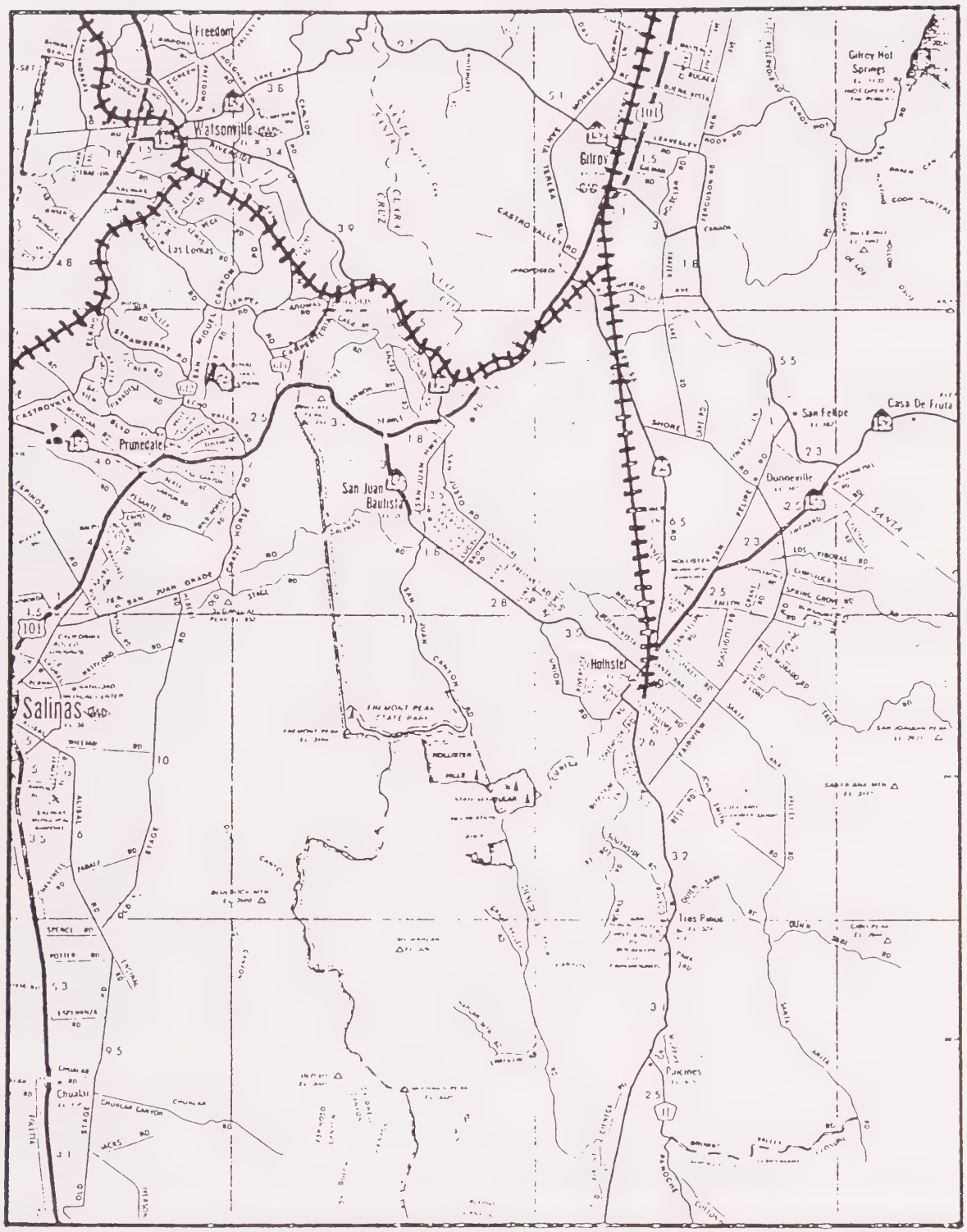
There are two railroad lines in San Benito County which are operated by Southern Pacific Transportation Company.* Figure 1 shows the locations of these railroad lines. The Gilroy - Hollister line runs in a straight line from Gilroy along Highway 25 to its terminus in Hollister. Southern Pacific operates 3 to 5 freight trains per week irregularly in the evenings on this line.

Southern Pacific's second line runs from Gilroy to Watsonville entering San Benito County two miles north of Aromas and following Quarry Road into Monterey County. Southern Pacific runs eight freight and two passenger trains on this line a day. On the average, two of these trains a day operate during night hours (10 p.m. to 7 p.m.).

To determine the approximate noise contours for these two lines, a simplified Ldn forecasting method was used. (See Appendix___). This methodology yielded the following noise exposure contours for these two railroad lines. These contours do not take into account the other factors effecting railroad noise mentioned previously, nor do they take into account any

FIGURE 1

SAN BENITO COUNTY RAILROAD LINES



reductions in noise levels due to the presence of barriers such as buildings. However, these contours provide a good generalized idea of the noise levels along these railroad lines. The County has also developed projected noise exposure contours for the year 2005 based upon Southern Pacific's estimates of a 20% increase in railroad operations on these lines. Existing railroad noise contours are shown in Figures 2 and 3, and projected railroad contours are shown in Figures 4 and 5.

* Source for railroad operation information: John Bauer, Watsonville Trainmaster for Southern Pacific Transportation Company, telephone conversations of May 14 and 21, 1984.

FIGURE 2

TYPICAL RAILROAD NOISE EXPOSURE CONTOURS
FOR THE GILROY-WATSONVILLE LINE - 1984

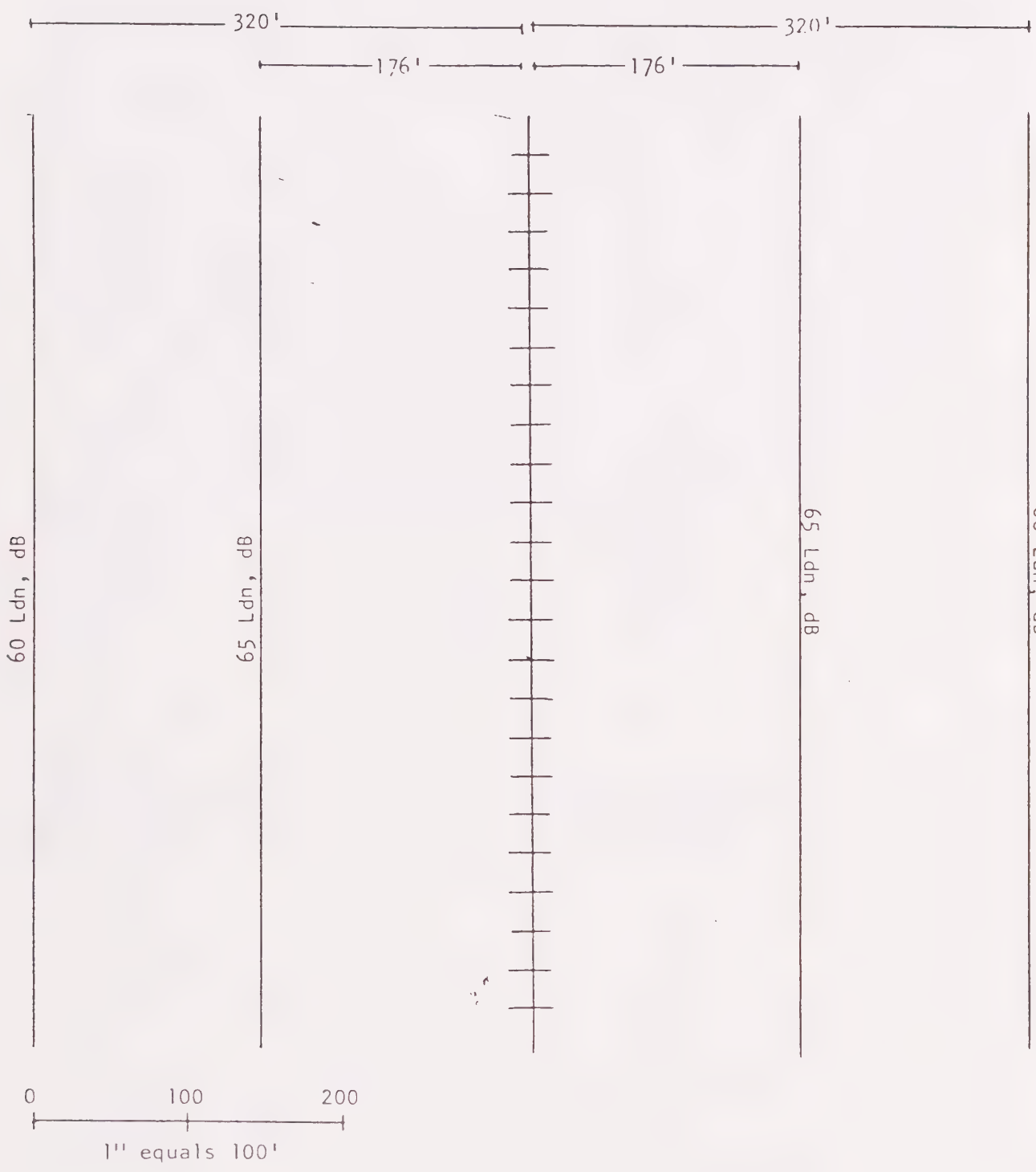


FIGURE 3

TYPICAL RAILROAD NOISE EXPOSURE CONTOURS
FOR THE GILROY-HOLLISTER LINE - 1984

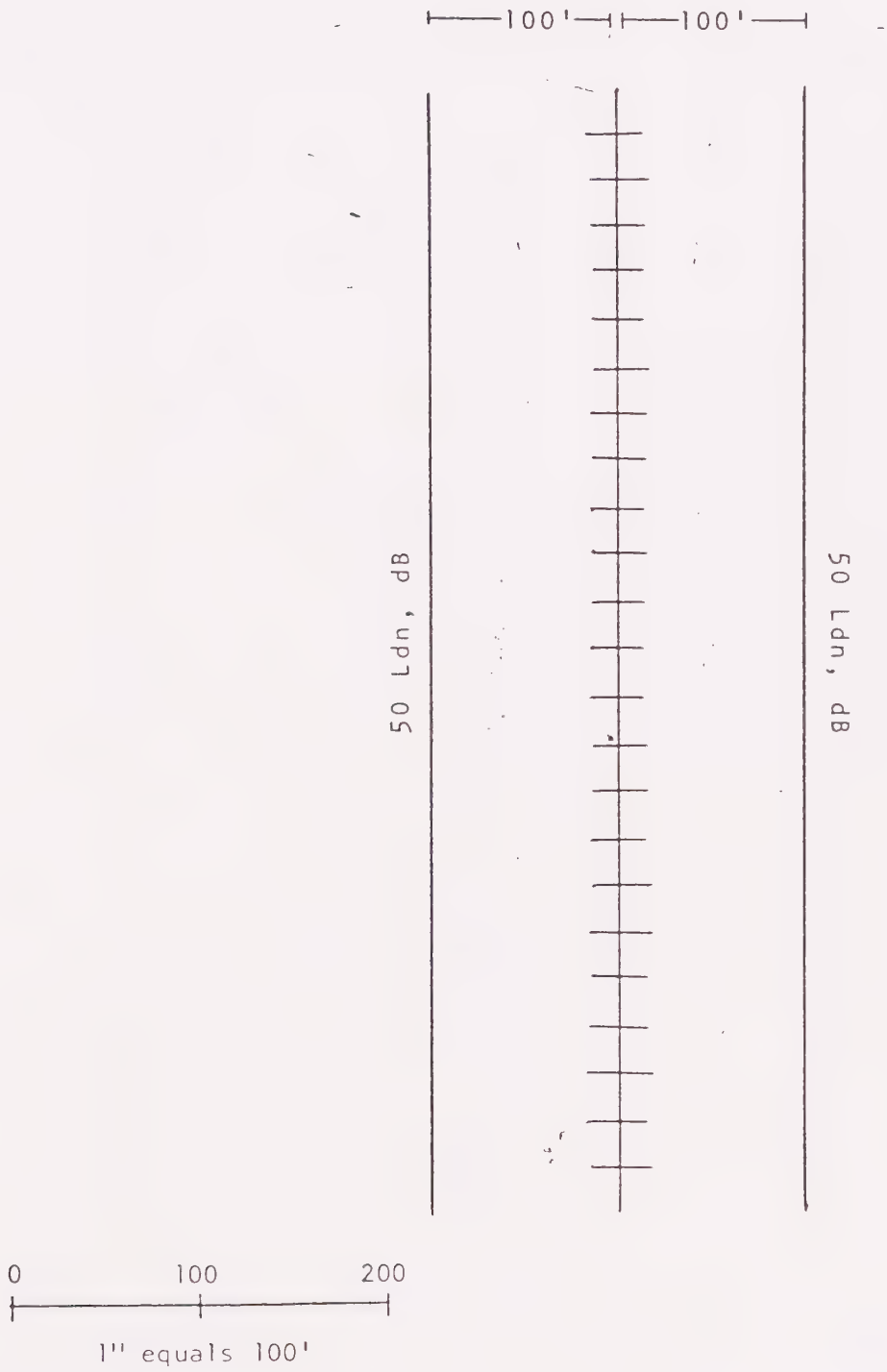


FIGURE 4

PROJECTED RAILROAD NOISE EXPOSURE CONTOURS
FOR THE GILROY-WATSONVILLE LINE - 2005

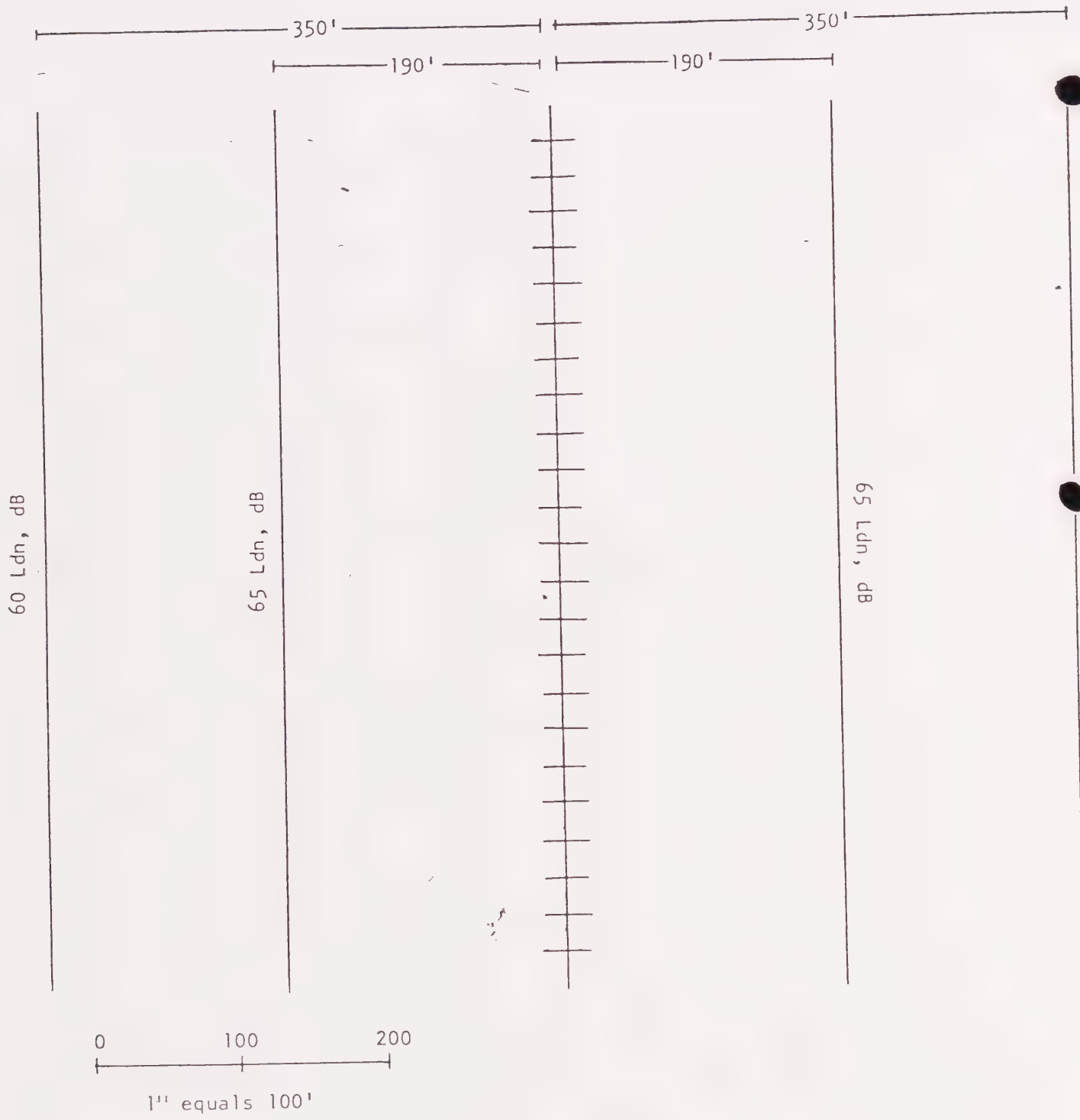
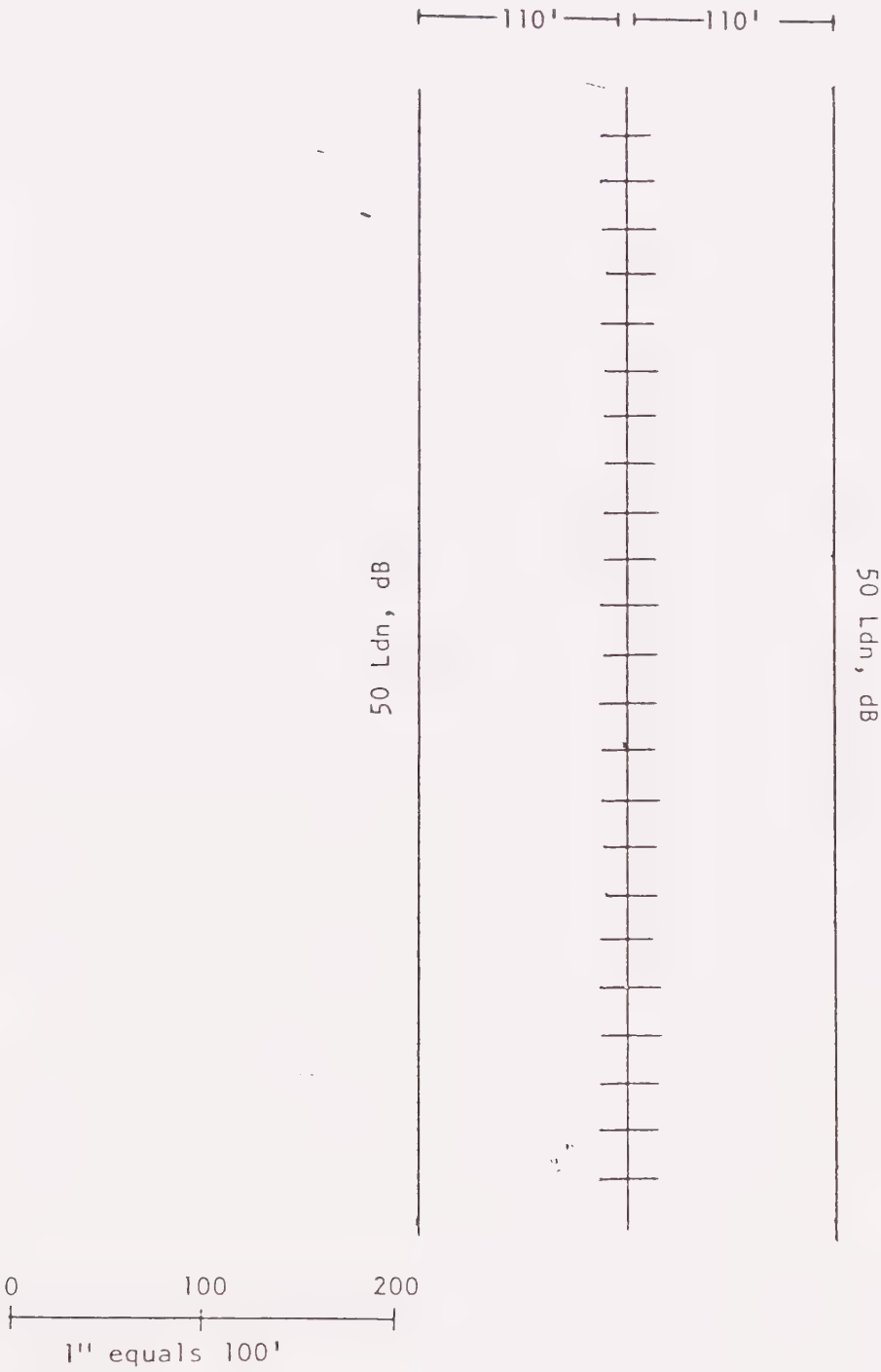


FIGURE 5

PROJECTED RAILROAD NOISE EXPOSURE CONTOURS
FOR THE GILROY-HOLLISTER LINE - 2005



AIRPORTS:

Within the County of San Benito there is one public and two private airports (see Figure 6). The Hollister Municipal Airport is located within the northern City limits of Hollister. It has an east-west 4,350 foot runway and a north-south runway of 4,020 feet. There are currently 80,000 operations annually. Takeoffs and landings are considered seperate operations. Approximately two-thirds of these operations occur on the north-south runway and the remaining one-third occur on the east-west runway. Most operations at the airport are small propeller aircraft. Business jets rarely use the Airport.

The Planning Department has developed noise exposure contours for the Hollister Municipal Airport using a methodology developed for the U.S. Department of Transportation. (Bishop, Dwight E. and Hays, Anthony P., Developing Noise Exposure Contours for General Aviation Airports, December 1975). This methodology is widely used and provides a good generalization of the location of noise exposure contours for general aviation airports. Figure 7 shows the location of noise exposure contours at the Hollister Municipal Airport for noise levels of 55, 60, and 65 Ldn, db. The Planning Department has also prepared projected noise contours for the Airport in the year 2005. These contours are based upon the Airport Manager's estimate of a 300 percent increase in operations, and are shown in Figure 8 . It should be noted that the City of Hollister is in the process of developing a Master Plan for the Municipal Airport which will include refined noise exposure contours developed by a sound expert. These contours should be available in six months and will be incorporated into this noise element at that time.

Figure 6 shows the location of the two private airstrips in San Benito County. In general these landing strips are used for two purposes: (1) agricultural, such as crop dusting, seeding, etc..., and (2) an individuals' private plane. Measurement of the noise generated by these airstrips would prove difficult to calculate due to the minimal number of operations,

FIGURE 6

SAN BENITO COUNTY

PUBLIC AND PRIVATE AIRPORTS

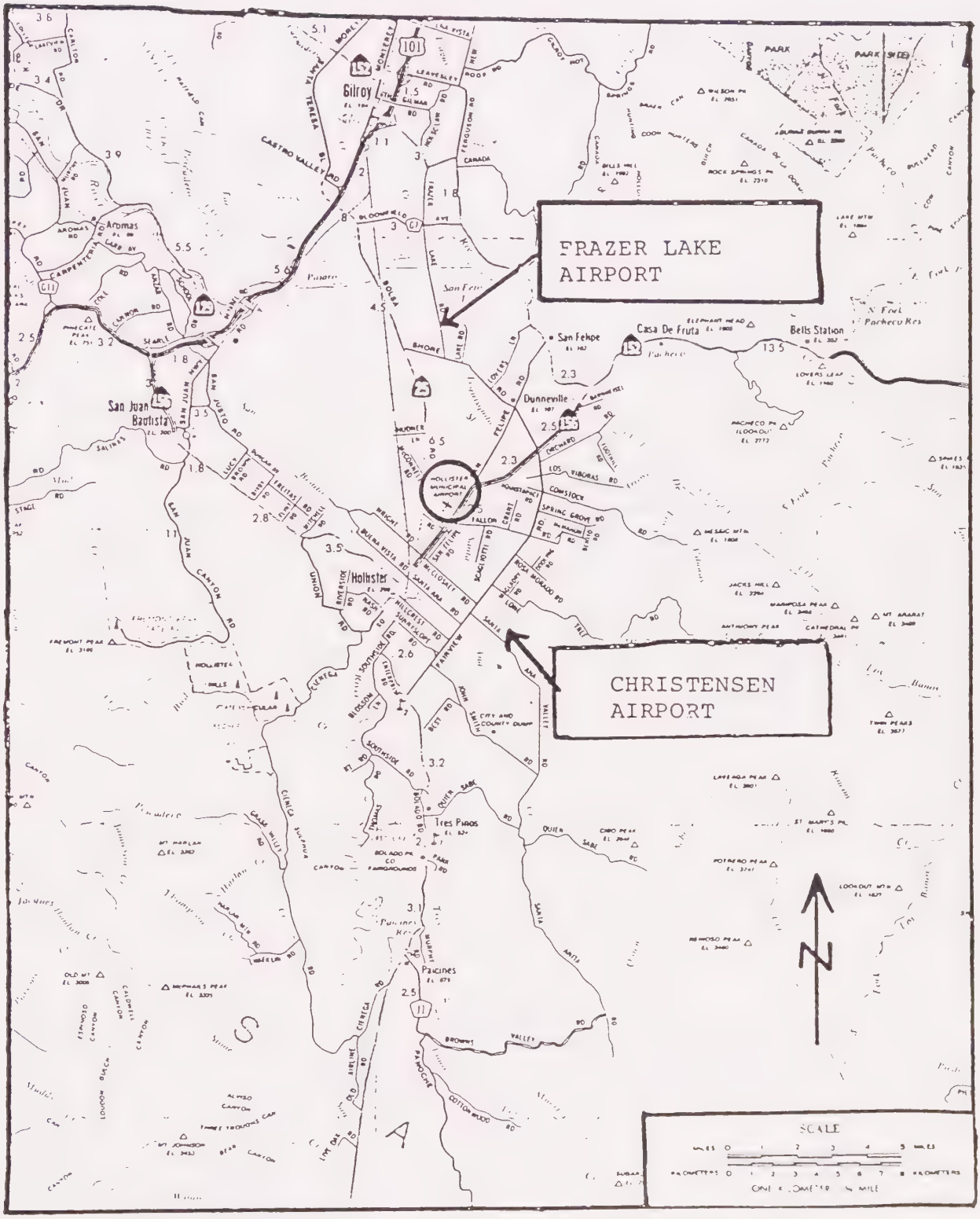


FIGURE 7

HOLLISTER MUNICIPAL AIRPORT
NOISE EXPOSURE CONTOURS - 1984

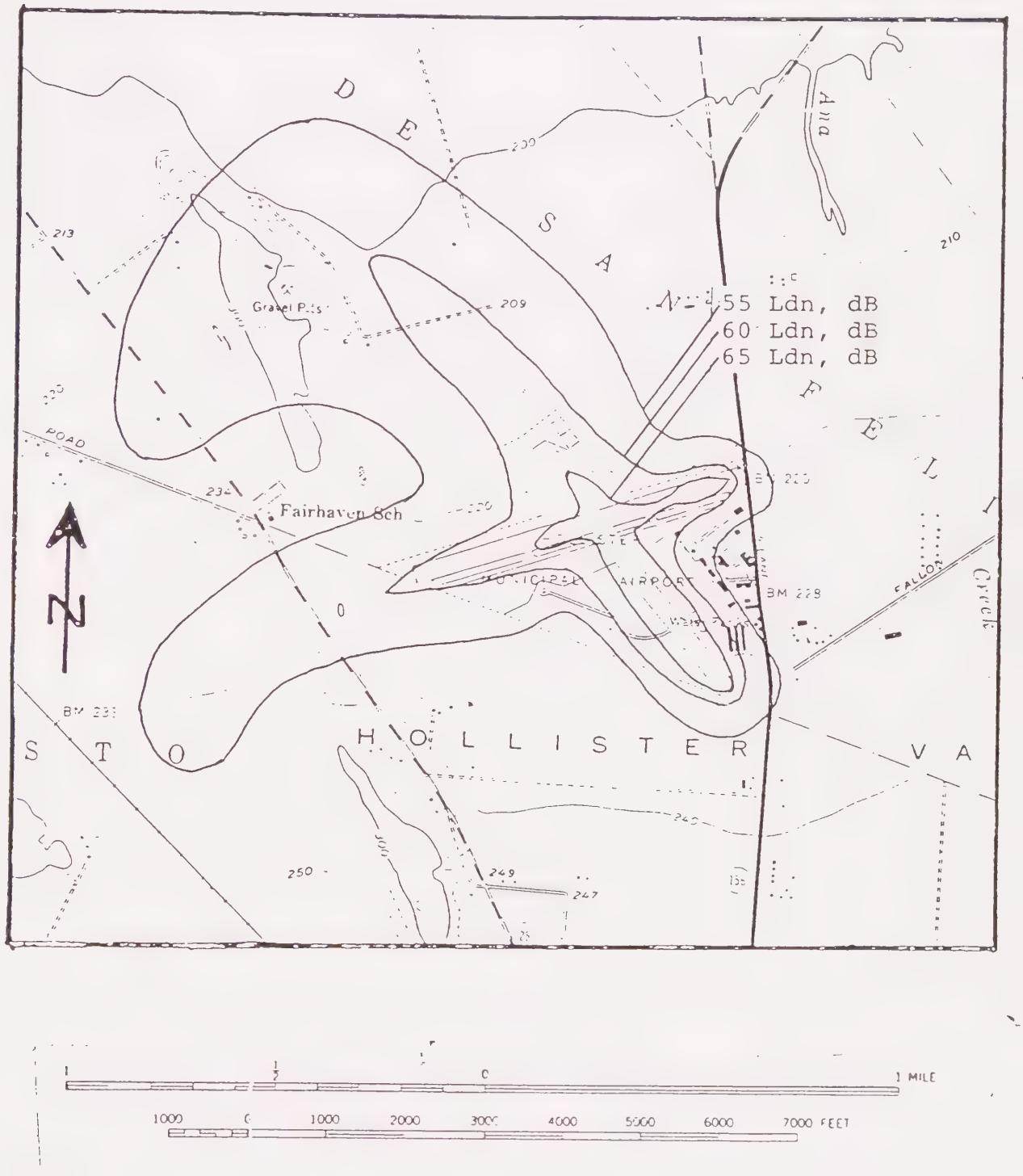
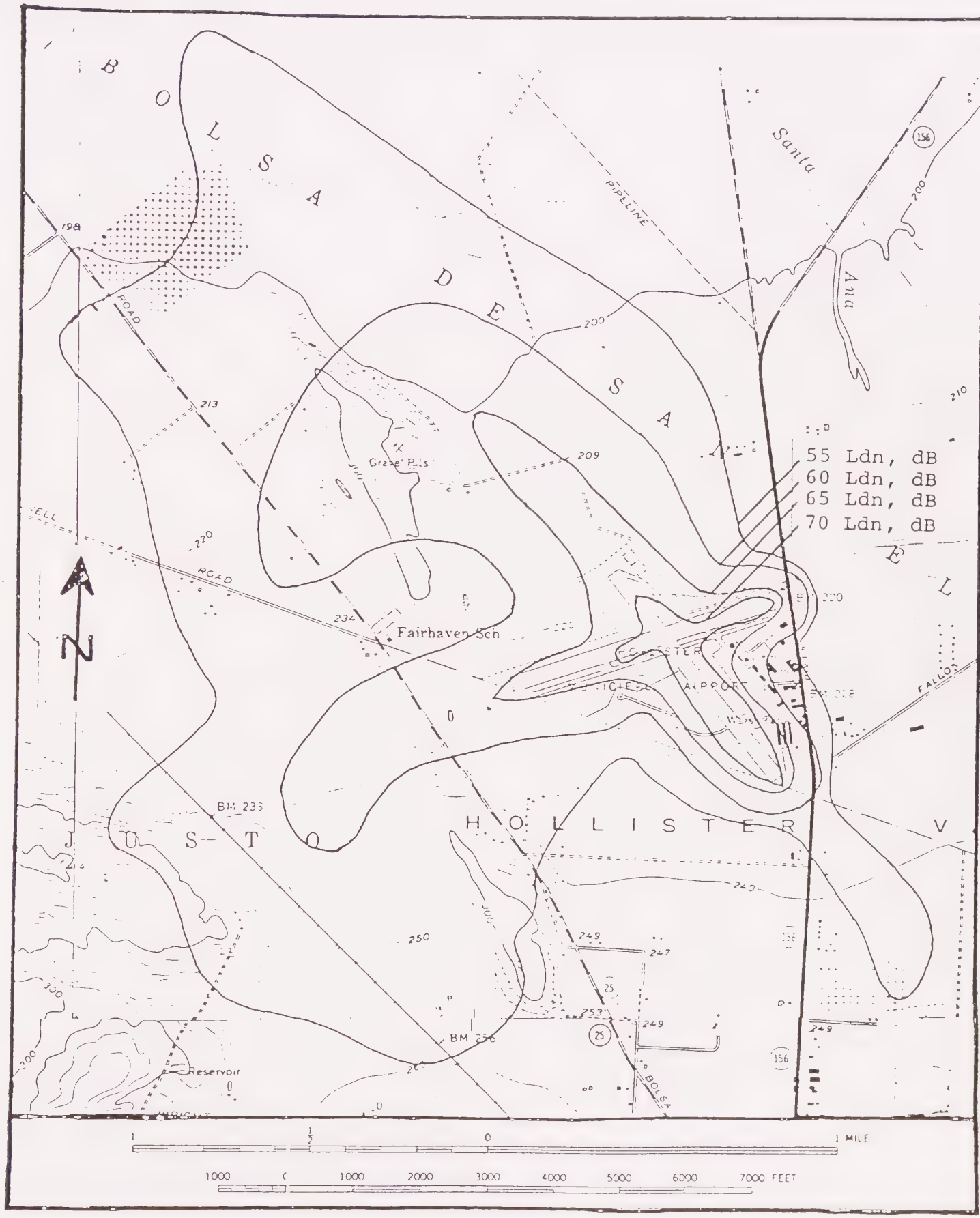


FIGURE 8

HOLLISTER MUNICIPAL AIRPORT
PROJECTED NOISE EXPOSURE CONTOURS - 2005



the diversified flight paths, and the irregular operation times. It is best to simply locate the landing strips and re-examine the site utilization during land use planning in the area of these strips.

STATIONARY SOURCES

Stationary sources refers to those noise generators which are fixed in one location. Among the major stationary sources of environmental noise in San Benito County are gravel extraction operations, packing plants, agricultural operations, manufacturing operations, off-road vehicle areas and explosive plants.

Gravel extraction operations along the San Benito River and its tributaries may generate excessive noise levels in agricultural areas with their use of earth moving machinery and the operation of batch plants. Packing and manufacturing plants are predominately located in and around the City of Hollister and create noise nuisances from machinery operation. Noise sources associated with agricultural uses include tractors and other farm machinery, well pumps, animal raising areas, etc.. The noise associated with agriculture fluctuates seasonally. All of the above-mentioned stationary sources are also responsible for creating a significant portion of the County's diesel truck traffic.

Another major generator of offensive noise in the rural areas is off-road vehicle areas. Within San Benito County there are numerous areas open for off-road vehicle use including Hollister Hills State Vehicular Recreation Area and the Bureau of Land Management Lands open for off-road vehicle use in south County. These recreation areas are located so as to disturb a minimal amount of neighboring property owners.

The following is an inventory of stationary sources of environmental noise in San Benito. Those sources marked by an asterick were included in a noise survey conducted on August 12 and 13 of 1980. Full results of the noise survey are given in Appendix D.

Christen Industries
Clear Creek Off-road Vehicle Area

Concrete Service Company Batch Plant, San Juan Facility
County Refuse Disposal
FMC Corporation
Granite Rock Quarry, Hospital Road*
Granite Rock Quarry, Aromas*
Hillsdale Rock Company Quarry, Highway 25
Hillsdale Rock Company Quarry, Nash Road
Hollister Hills State Vehicular Recreation Area
Mel Williams Sand and Gravel Quarry, Anzar Road
Paicines Quarry
Teledyne McCormick Selph*

COMMUNITY NOISE EXPOSURE INVENTORY

According to the Land Use Compatibility chart in Figure 10, a noise level of 60 dB (A) is "clearly acceptable" for residential areas. Relating the contours to the clearly acceptable noise level of 60 dB (A) for residential areas, the community noise exposure inventory can be determined based on the number of units within the roadway, railroad, and airport contours greater than 60 dB (A) and the average population density within these contours based upon zoning and land use information. Using this methodology, the Planning Department has calculated the number of residents in the unincorporated area of the County who are exposed to noise levels in excess of 60 dB (A) for each type of noise generator.

NUMBER OF PERSONS IN UNINCORPORATED
SAN BENITO COUNTY EXPOSED TO NOISE LEVELS IN
EXCESS OF 60 dB (A) - 1984

Noise Generator	Number of Persons
Roadways	208
Railroads	9
Airports	3
TOTAL	220

The County Planning Department has also calculated the projected number of residents who will be exposed to noise levels in excess of 60 dB (A) in the year 2005. These calculations were done using the same methodology described above along with the projected increases in the noise levels of three main noise generators.

PROJECTED NUMBER OF PERSONS IN UNINCORPORATED
SAN BENITO COUNTY EXPOSED TO NOISE LEVELS
IN EXCESS OF 60 dB (A) - 2005

Noise Generator	Number of Persons
Roadways	266
Railroads	12
Airports	15
Total	293

NOISE - SENSITIVE USES

Some of the land uses within unincorporated San Benito County are more critically impacted by noise than others. These noise sensitive areas include schools, churches, hospitals, nursing homes, parks, and campgrounds. An inventory of such noise sensitive uses within unincorporated San Benito County is shown in Figure_____. In most cases these uses are not located in close proximity to any major noise sources. The County will use this inventory to determine whether a proposed land use will have an impact on a noise - sensitive use.

FIGURE 9

NOISE - SENSITIVE USES

RELATIONSHIP BETWEEN THE NOISE ELEMENT AND THE LAND USE ELEMENT

The Noise Element and the Land Use Element are closely interrelated. One of the chief reasons for the preparation of a noise element is to establish a data base and set of policies to make the noise environment an important consideration in the land use planning process. The data and policies set forth in the Noise Element will assist planners in:

1) the location of residences and noise-sensitive uses in relation to existing noise sources.

2) and vice-versa, the location of noise generating land uses in relation to existing residences and noise-sensitive uses.

Figure 10 shows acceptable noise levels for various categories of land use. The County has addressed the relationship between noise and land use through the establishment of goals and policies to (1) regulate noise from aircraft, (2) reduce ground transportation related noise impacts; (3) reduce industrial related noise impacts; and (4) reduce construction related noise impacts. In addition, this Element has established an action plan which includes the adoption of a noise ordinance with standards for development.

LAND USE COMPATABILITY FOR COMMUNITY NOISE ENVIRONMENTS

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE L_{dn} OR CNEL, dB						
	55	60	65	70	75	80	
RESIDENTIAL - LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES							
RESIDENTIAL - MULTI. FAMILY							
TRANSIENT LODGING - MOTELS, HOTELS							
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES							
AUDITORIUMS, CONCERT HALLS, AMPHI-THEATRES							
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS							
PLAYGROUNDS, NEIGHBORHOOD PARKS							
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES							
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL							
INDUSTRIAL, MANUFACTURING UTILITIES, AGRICULTURE							

CLEARLY ACCEPTABLE
The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference from aircraft noise. (Residential areas: both indoor and outdoor noise environments are pleasant.)

NORMALLY ACCEPTABLE
The noise exposure is great enough to be of some concern, but common building construction will make the indoor environment acceptable, even for sleeping quarters.

NORMALLY UNACCEPTABLE
The noise exposure is significantly more severe so that unusual and costly building construction is necessary to insure adequate performance of activities. (Residential areas: barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable.)

CLEARLY UNACCEPTABLE
The noise exposure is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive. (Residential areas: the outdoor environment would be intolerable for normal residential use.)

Source: U.S. Department of Housing and Urban Development, Aircraft Noise Impact: Planning Guidelines for Local Agencies, by Wiley & Ham and Bolt, Beranek and Newman, 1972.

GENERAL OBJECTIVES OF THE NOISE ELEMENT

1. To protect the health, safety and welfare of San Benito County residents through the elimination of annoying or harmful noise levels.

2. To promote long range planning goals which maintain the existing acoustical environment.

3. To establish criteria by which the County Planners may determine potentially acceptable land uses for a given site.

4. To recognize the need to place limitations on the level of noise emission resulting from individual sources as a means of maintaining noise levels for a given land use within recommended sound level range.

5. To develop an action program which provides for implemention of the goals outlined in this document including adoption of a noise ordinance.

The following section of the Noise Element contains the more specific goals identified by San Benito County in it's efforts to maintain a healthy environment free of hazards associated with noise pollution. In addition, the policies supported by the County for the implementation of such goals are set forth. It is the intent of the County to adopt a noise ordinance as a means of implementing those policies and monitoring noise hazards having a potentially detrimental effect on the health, safety and welfare of it's residents.

SPECIFIC GOALS AND POLICIES

GOAL #1: THE REGULATION OF NOISE FROM AIRCRAFT

POLICIES

1. To insure that County land near airports, particularly land lying within future clear zones, will be reserved for only those uses deemed to be compatible with the high noise levels associated with an airport. Such uses might include open space, agriculture, cemetary, golf course or appropriate industrial uses.

2. To work with the City of Hollister to establish flight patterns which minimize noise impacts on existing and anticipated residential and commercial areas.

3. To encourage the establishment of an Airport Land Use Commission and to encourage the adoption of a noise abatement program by the Airport Commission consistent with FAA standards and California Noise Regulations for Airports.

The State Department of Aeronautics has established the following limitation on airport noise and residential communities:

TABLE 6

MAXIMUM AIRPORT GENERATED NOISE LEVELS FOR RESIDENTIAL NIEGHBORHOODS

Date	CNEL (L_{dn}) in Decibels
Present to 12-31-80	75
1-1-81 to 12-31-85	70
1-1-86 and thereafter	65

GOAL #2: TO REDUCE GROUND TRANSPORTATION RELATED NOISE IMPACTS

POLICIES

1. To route heavily traveled transportation routes to insure minimum noise encroachment upon residential and other noise sensitive land uses (See Circulation Element).

2. That county vehicles and equipment should be maintained in such condition so as to assure minimum noise emission.

3. To provide for the enforcement of existing statewide vehicle noise regulations by local authorities, specifically those sections of the California Vehicle Code which pertain to illegal or faulty exhaust systems, speed laws and operation of vehicles in such a manner as to produce excessive noise.

4. To keep the number of truck routes in the County at a minimum and locate said routes in such a manner as to avoid impacts on those areas identified as noise sensitive. Wherever possible, trucks should be routed onto freeways and non-residential arterials, even where such routing is not the shortest distance between points.

5. To limit the use of off road recreational motor vehicles to those areas specifically designated for that purpose, (i.e. Clear Creek and Hollister Hills State Vehicular Recreation Area) and to maintain lands surrounding those areas in open space and agricultural use as a means of providing a noise buffer zone.

6. To encourage County Roads Department and California Department of Transportation to utilize noise attenuation features (See section on Noise

Attenuation in this Element) in the design of new County roadways.

7. To require the installation of noise attenuation features when new residential developments are located adjacent to freeways, highways, arterials, railroad right of ways, and other noise generating uses.

8. That as a part of the noise ordinance, noise emission regulations will be establish which specifically apply to off road recreational vehicles.

9. To provide for non-noise sensitive land uses in areas near railroads and encourage compliance with Federal Rail Noise Standards by interstate rail carriers.

GOAL #3: TO REDUCE INDUSTRIAL RELATED NOISE IMPACTS

POLICIES

1. That the State Department of Health and Noise Compatibility Standards will be adhered to by County Planning staff and officials in reviewing applications for proposed industrial developments and in monitoring noise levels from existing industrial developments.

2. That the County Zoning Ordinance will be amended to include industrial noise standards which reflect current State standards.

3. That the County will encourage provision of a one-year grace period in the County Noise Ordinance to allow existing industries time to prepare noise abatement plans in order to comply with the Noise Ordinance.

4. That Building Code noise insulation requirements for industrial buildings should reflect current State standards.

5. That new industrial developments shall not be permitted in areas designated as noise sensitive unless it can be demonstrated that they will not result in an appreciable increase in the ambient noise level.

GOAL #4: TO REDUCE CONSTRUCTION RELATED NOISE IMPACTS

POLICIES

1. It will be the County's continuing policy to control the operation of construction equipment at specific sound intensities and frequencies during specified hours.

2. The County will encourage the use of barriers or enclosures for equipment having high noise emission.

3. The County will encourage use of the Environmental Protection Agency Equipment Noise Standards as specifications for the modification of old County equipment and the purchase of new equipment.

ACTION PLAN

As part of its Noise Element Action Plan, the County will adopt a noise ordinance which will include within its scope the following:

1. Guidelines for determining the need for Environmental Impact Reports as a means of noise abatement and control. Suggested criteria are listed below:

1. Roadway Alteration or Construction

(a) If additional average daily traffic (ADT) in excess of 20% is generated by the project and normal growth over any roadway segment where neighboring land use is hospital, school, park, open space, residential, professional office or commercial; where additional average daily truck traffic is generated in excess of 10% is adjacent to these same land uses; or where roadway operating speeds will increase by more than 10 m.p.h. adjacent to the same land uses.

(b) If additional ADT in excess of 30% is generated over any roadway segment; or where additional average truck traffic in excess of 15% is generated by the project over any roadway segment; or where roadway operating speeds will increase by more than 20 m.p.h. over any roadway segment.

(c) If additional or design capacity in excess of 20% of existing ADT is generated by the project over any roadway segment whose neighboring land use is hospital, school, park, open space, residential, or if additional design capacity in excess of 30% ADT is generated by the project adjacent to any land use.

(d) If other significant roadway designs are altered, such as appreciable upward change in uphill grade ($\geq$ 3° sustained for linear distance of 300 feet); significant additional congestion where average speeds are already less than 20 m.p.h., or if significant altered traffic contours of major traffic-carrying roadways ($\geq$ 10,000 ADT).

2. Residential Developments

(a) If the development is greater than 40 dwelling units and meets one or more of the following:

1. Adds more than 10 percent to ADT on one or more adjacent roadways;
2. Is adjacent to a roadway of peak hour design capacity or approved planned capacity greater than 1,000 vehicles/hour.

3. Recreational or Sports Facilities

(a) If the Development could generate peak arrivals or departures of more than 1,000 vehicles/hour.

4. Other

(a) If the development introduces a new source of stationary noise or otherwise induces increased traffic levels, railroad activity or loudspeaker use such that the noise climate for residential, hospital, school, park, commercial, professional or open space use may be materially modified.

2. Identification of noise sensitive areas and regulations which serve to protect those areas from noise sources. Areas deemed to be noise sensitive include the following:

a. Areas where wildlife is maintained in its natural habitat

b. Areas where farm animals are raised and/or breed

c. Schools

d. Libraries

e. Churchs and retreats

f. Hospitals

g. Nursing homes

h. Parks

i. Campgrounds

j. Riparian corridors

3. The following guidelines will be included for the review of new projects with respect to the ambiant noise level. The Planning Department will incorporate in its review process a checklist based on the criteria identified in each of the four following areas:

SITE PLANNING

1. Locate buildings in such a manner as to take advantage of any shielding afforded by natural terrain or vegetation.

2. Those buildings proposed to be located adjacent to noise sources, such as a major roadway, should be placed so that all windows, vents, and doorways face away from the noise source.

3. Placement of dwelling units as far as possible from the noise source and placement of driveways and non dwelling units between dwelling units the and noise source effectively reduces noise impacts.

4. Use of landscaped open space between dwelling units and noise sources.

ARCHITECTURAL DESIGN

1. Locate noise sensitive rooms, such as bedrooms and living rooms, as far as possible from the noise source.

2. Noise impacts are reduced by placing balconies on the quiet side of buildings. Balconies facing roadways can reflect traffic noise directly into the interior of the building.

3. Use of appropriate insulation and construction materials result in a significant reduction in noise levels. Table 6 shows construction methods required to achieve a reduction in exterior noise.

LANDSCAPING

1. A significant reduction in year round noise impacts may be achieved through the use of wide belts of evergreen trees. Height, belt width, and density of vegetation are the primary factors involved in reducing levels.

2. Placement of a noise screen relatively close to the source of noise is most effective. A distance of 10 to 25 feet from the noise source yields optimum results.

3. For good results, the noise screen should extend on both sides of the protected area for approximately the distance from noise source to receiver.

4. Noise screen belts of 75 to 100 feet in width are desirable for good results.

5. Maximum benefits can be achieved through a succession of levels of vegetation, for example, starting 60 to 100 feet from centerline of roadway plant and row of ground cover, next a row of shrubs 15 to 20 feet in height, then a row of trees approximately 40 feet in height and finally a row of trees greater than 40 feet in height. The rows of vegetation should create a combined width of 100 feet or more.

Appendix E contains a list of evergreen trees and shrubs considered to be suitable for noise abatement.

ROADWAYS

1. The use of earthern berms, especially combined with landscaping, is a means of shielding residential developments from high noise levels associated with heavily traveled thoroughfares.

2. Construction of depressed roadways reduces the impact of traffic related noise on adjacent land use.

3. Various types of walls serve as noise barriers including those made of wood, concrete, and stucco. Such barriers must be of sufficient length to prevent noise from passing around the ends and reaching noise sensitive areas.

4. The noise ordinance will include noise emission regulations which specifically apply to offroad recreational vehicles.

5. The ordinace will include requirements for the preparation of noise abatement plans for existing and future industrial projects.

TABLE 7

(From Land Use Plan for Area Surrounding Santa Clara County Airports, August 1973)

GENERAL CONSTRUCTION METHODS TO ACHIEVE THE INDICATED EXTERIOR NOISE REDUCTION

Required Overall Bldg. Noise Reduction (dBA)	FLOOR	EXTERIOR WALLS	EXTERIOR DOORS	WINDOWS	CEILING
30	No special provisions	No special provisions, eliminate penetrations of wall air conditioning units, etc.	Solid core, weather-stripping	Seal	Generally, no special provisions.
40	a. Slab-on-grade - no special provisions b. If raised floor, one or more of the following: 1. Vent baffling. 2. Attach gypboard to under side of floor joists	No special provisions in most cases. Eliminate penetrations of wall air conditioning units, etc.	Sound doors, sound seals	Double glazing, sealed windows	a. Attic system 1. Vent baffling. 2. Sound absorption between beams. b. If beam ceiling: 1. Provide sound absorption between joists. 2. Provide gypboard on resilient clips to under side of beams.
50	a. Slab-on-grade - no special provisions b. If raised floor: 1. Vent baffling. 2. Attach gypboard to under side of floor joists	a. Wood framing-staggered studs with sound absorption in cavity. Stucco on outside, 2 layers of gypboard on inside. b. 8 inch concrete block with sealed exterior & interior surfaces. c. 4 inch dense concrete.	Special sound doors with acoustical seals.	Double glazing, sealed windows, minimum 4 inch airspace	a. Attic System 1. Vent sound traps 2. Independently framed ceiling and roof system. 3. Sound absorption in attic space. b. Built up roof over 4" concrete slab with suspended ceiling.
60	a. Slab-on-grade - no special provisions. b. If raised floor: similar to NR-50 requirement except more effective vent baffling; attach gypboard to floor joists by resilient clips	a. Wood or steel stud framing-double studs with multi-layer gypboard on both sides, exterior stucco or sheathing. Sound absorption in air cavity. b. 12 inch dense concrete. c. 4 inch concrete with separate furred multi-layer gypboard wall. Sound absorption in air cavity.	Two solid core weather-stripped doors with sound lock.	Barely practical. Minimize window area Double glazing with acoustical glass and 8" airspace. Avoid windows on noise exposure side. Arrange windows on exterior incl. court,	a. Attic System, similar to NR-50 requirement but more mass. b. 4 inch concrete slab with vibration isolated ceiling.

APPENDIX A

Highway Noise Exposure Data

SAN BENITO COUNTY

Ldn CONTOURS

2000

SBt-101

0.00 County Line

76.2	dBA	=	50'
75	dBA	=	60'
70	dBA	=	130'
65	dBA	=	282'
60	dBA	=	600'

3.05 Jct. Rte. 156

75.9	dBA	=	50'
75	dBA	=	58'
70	dBA	=	124'
65	dBA	=	266'
60	dBA	=	574'

7.55 County Line

SAN BENITO COUNTY

Ldn CONTOURS

2000

SBt-129

0.00 County Line

71.7	dBA	=	50'
70	dBA	=	64'
65	dBA	=	140'
60	dBA	=	302'

2.64 Jct. Rte. 101

SAN BENITO COUNTY

Ldn CONTOURS

2000

SBt-156

0.00 Jct. Rte. 101

71.4	dBA	=	50'
70	dBA	=	62'
65	dBA	=	134'
60	dBA	=	288'

3.57 City Limits San Juan Bautista

73.5	dBA	=	50'
70	dBA	=	86'
65	dBA	=	184'
60	dBA	=	396'

7.25 Union Rd.

73.3	dBA	=	50'
70	dBA	=	84'
65	dBA	=	176'
60	dBA	=	378'

9.14 City Limits Hollister

69.5	dBA	=	50'
65	dBA	=	100'
60	dBA	=	214'

10.48 Powell St.

75.2	dBA	=	50'
75	dBA	=	52'
70	dBA	=	112'
65	dBA	=	240'
60	dBA	=	514'

10.78 Jct. 180 South

69.3	dBA	=	50'
65	dBA	=	98'
60	dBA	=	210'

11.57 Jct. 180 North

72.0	dBA	=	50'
70	dBA	=	68'
65	dBA	=	146'
60	dBA	=	316'

14.67 Santa Ana Cr. Br.

72.4	dBA	=	50'
70	dBA	=	74'
65	dBA	=	156'
60	dBA	=	334'

18.43 County Line

SAN BENITO COUNTY

Ldn CONTOURS

2000

SBt-180

0.00 County Line

71.6	dBA	=	50'
70	dBA	=	64'
65	dBA	=	138'
60	dBA	=	296'

8.63 North Jct. Rte. 156

8.63 South Jct. Rte. 156

70.9	dBA	=	50'
70	dBA	=	58'
65	dBA	=	124'
60	dBA	=	266'

8.85 7th St.

72.0	dBA	=	50'
70	dBA	=	68'
65	dBA	=	146'
60	dBA	=	316'

10.06 Ladd Lane Rd.

68.2	dBA	=	50'
65	dBA	=	82'
60	dBA	=	176'

11.07 Valley View Rd.

65.9	dBA	=	50'
65	dBA	=	58'
60	dBA	=	124'

20.57 Jct. Rte. 25

APPENDIX B

1980 Highway Noise Exposure Contour Maps

November 21, 1980

Noise Contours
(Required in Accordance with Section
65302 of the Government Code)
05513 - 908002

Philip A. Fitzbuck
Planning Director
County of San Benito
Courthouse, 5th St.
Hollister, CA 95023

Dear Mr. Fitzbuck:

Submitted with this memo is the noise contour data for all state highways in your County requested in your letter of August 12, 1980. The list tabulates the L_{dn} levels for 5dBA increments at the different distances from the center of the near lane of the highway. The noise levels listed represent predicted 1980 and 2000 levels.

The L_{dn} levels listed do not take into consideration any attenuation that may be achieved by the presence of buildings, walls, terrain or other physical features, inside or outside of the highway right of way. These levels are based on an at grade situation, with a steady flow of traffic and generally level terrain. The noise levels were developed using a 4.5 dBA drop-off rate per double distance. Following is a brief summary of how the L_{dn} noise levels were developed.

The San Francisco (District 4) Highway Traffic Noise Prediction Program, which is available on our TENET computer system, was used to predict the noise levels. It is based on FHWA-RD-77-108 and National Reference Energy Mean Emission Levels. The basis of the model is the equivalent sound level, Leq. The method incorporates three classes of vehicles-automobiles, medium trucks, and heavy trucks. Report No. FHWA-RD-77-108 also covers special topics such as the determination of equivalent day-night levels, L_{dn}.

The noise levels developed are based on 1979 traffic volumes and on 1978 truck traffic percentages. The traffic volumes used were annual average daily traffic volumes and not peak hour volumes. We felt the noise levels would tend to be more realistic using this approach.

With the help of our Traffic Department, day and nighttime traffic volume percentages were developed, along with truck percentages for the day and nighttime periods. In areas where the required data was not readily available, some engineering judgment had to be made to determine what percentages should be used in these cases.

SAN BENITO COUNTY

Ldn CONTOURS

1980

SBt-129

0.00 County Line

68.7 dBA = 50'
65 dBA = 88'
60 dBA = 190'

2.64 Jct. Rte. 101

SAN BENITO COUNTY

Ldn CONTOURS

1980

SBt-156

0.00 Jct. Rte. 101
- 69.6 dBA = 50'
- 65 dBA = 102'
- 60 dBA = 218'

3.57 City Limits San Juan Bautista
- 72.0 dBA = 50'
- 70 dBA = 68'
- 65 dBA = 146'
- 60 dBA = 316'

7.25 Union Rd.
- 71.8 dBA = 50'
- 70 dBA = 66'
- 65 dBA = 142'
- 60 dBA = 306'

9.14 City Limits Hollister
- 68.0 dBA = 50'
- 65 dBA = 80'
- 60 dBA = 170'

10.48 Powell St.
- 73.7 dBA = 50'
- 70 dBA = 88'
- 65 dBA = 190'
- 60 dBA = 408'

10.78 Jct. 180 South
- 67.8 dBA = 50'
- 65 dBA = 78'
- 60 dBA = 164'

11.57 Jct. 180 North
- 70.5 dBA = 50'
- 70 dBA = 54'
- 65 dBA = 116'
- 60 dBA = 250'

14.67 Santa Ana Cr. Br.
- 70.9 dBA = 50'
- 70 dBA = 58'
- 65 dBA = 124'
- 60 dBA = 266'

18.43 County Line

SAN BENITO COUNTY

Ldn CONTOURS

1980

SBt-180

0.00 County Line

69.6	dBA	=	50'
65	dBA	-	102'
60	dBA	=	218'

8.63 North Jct. Rte. 156

8.63 South Jct. Rte. 156

68.9	dBA	=	50'
65	dBA	=	92'
60	dBA	=	196'

8.85 7th St.

70.0	dBA	=	50'
65	dBA	=	108'
60	dBA	=	232'

10.06 Ladd Lane Rd.

66.2	dBA	=	50'
65	dBA	=	60'
60	dBA	=	130'

11.07 Valley View Rd.

63.9	dBA	=	50'
60	dBA	=	92'

20.57 Jct. Rte. 25

SAN BENITO COUNTY

Ldn CONTOURS

2000

SBt-025

0.00 County Line

51.3	dBA	=	50'
50	dBA	=	60'

7.30 King City Rd.

53.5	dBA	=	50'
50	dBA	=	86'

39.53 Jct. Rte. 180

The 1980 Highway Noise Exposure Contour Maps are available for review at the Planning Department, 3220 Southside Road, Hollister

APPENDIX C

Simplified Procedure for Developing Railroad Noise Exposure Contours

Simplified Procedure for Developing Railroad Noise Exposure Contours

Jack W. Swing, State of California, Berkeley, California

Railroad line operations are one source of community noise which should be included in community noise planning. A simplified procedure is presented for estimating the noise impact of such operations, in terms of the Day-Night Average Sound Level (L_{dn}).

Current efforts in community planning are paying increased attention to the noise environment of residents, particularly in California where communities are now required by State Law [Senate Bill 691, State Code 65302(g)] to include noise as a specific element of their general plans. To assist city planners in complying with the requirements of this law, which includes quantitative descriptions of the noise environment created by ground transportation noise sources, a number of simplified nomograms have been developed. Based on rigorous analytical procedures and computer augmented techniques they can be easily used by persons untrained in acoustics and they yield a good first approximation of noise exposure for specific sources.

The method presented here for on-line railroad operations is derived from a study performed by Wyle Research for the Southern Pacific Transportation Company in conjunction with the Atchison Topeka and Santa Fe and Union Pacific Railway Companies and the Association of American Railroads.[1]

This method presents a simplified procedure for the estimation of noise impact created by on-line railroad operations in terms of Day-Night Average Level (L_{dn}) noise contours. L_{dn} noise contours account for the A-weighted noise magnitude of individual occurrences, as well as the time duration of each event. Additionally, they account for the total number of single event occurrences during the 24-hour day. They also weight these occurrences relative to the time of day in which they occur to account for increased human sensitivity to noise at night.

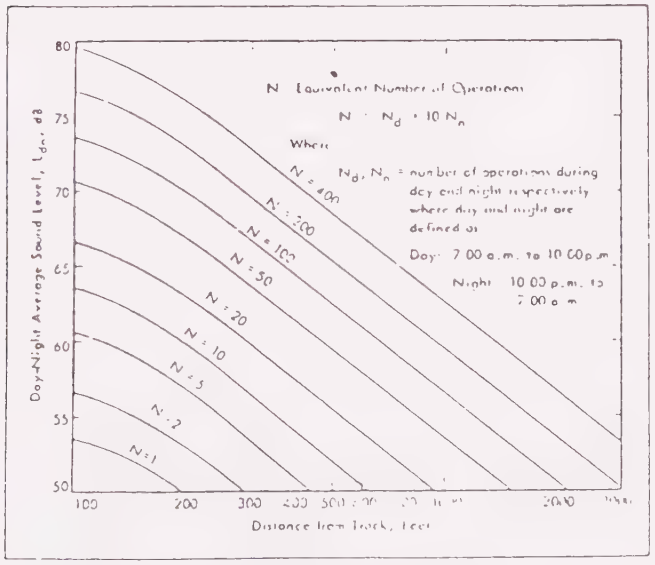


Figure 1 – Distances to day-night average level (L_{dn}) noise contours for railroad line operations

The procedure consists of first determining the equivalent number of operations N which is equal to the actual number which occurs during the DAY time period (7: a.m. to 10:00 p.m.) plus 10 times the number occurring during the NIGHT time period (10:00 p.m. to 7:00 a.m.). The factor of 10 relates to increased noise sensitivity during the NIGHT time period. A graphical look-up chart is provided such that the distance to a desired contour value (i.e., 65, 70, 75 dB) may be read directly by entering the chart at the calculated value of equivalent operations, N.

Finally, adjustment factors may be included to account for increased noise levels (and hence, broader reaching noise contours) resulting from tight radius curves, switching frogs, unwelded rail, and bridgework.

Directions for Usage

Step 1 — Equivalent Number of Operations

Calculate equivalent number of on-line operations from the formula:

$$N = N_d + 10\ N_n$$

where:

- N = equivalent number of operations
- N_D = number of daytime operations occurring between 7:00 a.m. and 10:00 p.m.
- N_N = number of nighttime operations occurring between 10:00 p.m. and 7:00 a.m.

Step 2 — Distance to L_{dn} Contour Values

To find the distance to a given contour value, enter Figure 1 at this value on the left vertical axis and move horizontally to the right until the curve corresponding to the desired value of equivalent number of operations is reached. Move vertically down from that point and read the distance in feet from the track to this contour value. Contour values so determined do not take into account miscellaneous track irregularities which may increase noise generation at specific locations.

Table 1 – Adjustments to L_{dn} Noise Contours

Variables Affecting Noise Output	Correction to Desired L_{dn} Value, dB
1. Passenger trains only (If combination of passenger and freight — assume all freight)	−1
2. Presence of helper engines:	
a. Level grade or descending grade	0
b. Ascending grade	+2
3. Mainline welded or jointed track	0
4. Low speed classified jointed track	+4
5. Presence of switching frogs or grade crossings	+4
6. Tight radius curve	
a. Radius less than 600 feet	+4
b. Radius 600 to 900 feet	+0.5
c. Radius greater than 900 feet	0
7. Presence of bridgework	
a. Light steel trestle	+14
b. Heavy steel trestle	+5
c. Concrete structure	0

Step 3 — Additional Factors Affecting Noise Output

Table 1 summarizes the net effect of these additional variables on the L_{dn} noise contours produced by railroad line operations. To include these factors in the analysis, derive an "adjusted contour value" by subtracting the adjustment value determined from Table 1 from the value of the contour desired. (In the case of multiple occurrence of the items shown in this Table, only the larger of the adjustment values should be used.) Enter Figure 1 at the new adjusted contour value to obtain the distance to the originally-desired contour value. (This procedure effectively moves a given contour farther from the tracks to account for the increased noise output.

Example

Given: Passenger and Freight Operations activity over a segment of north-south welded mainline track as summarized in the table below:

Type/Direction	Number of Daily Operations Day	Night
Freight – Northbound	6	2
Freight – Southbound	4	1
Passenger – Northbound	3	0
Passenger – Southbound	3	0
Total	16	3

The equivalent number of operations N are calculated as:

$$N = N_D + 10N_N = 16 + 10 \times 3 = 46^*$$

Assume we wish to compute the distances to the 70, 65, and 60 dB contours.

Given N = 46, these distances are determined from Figure 1 and shown below.

Contour Value, dB	Distance from Tracks, feet
70	115
65	250
60	450

If we now wish to include the effects of track irregularities over certain segments on the line, for example, presence of a switching frog, the following adjustment are made: Value of adjustment from Table 1 = +4 dB (Thus the switching frog will increase the noise level by 4 dB and extend the breadth of the contours). The effect of the increased noise level at the point of the switching frog on the contour is summarized below.

Desired Contour Value, dB	Adjustment Factor — from Table 1	Adjusted Contour Value, dB	Distance to Desired Contour Value, feet
70	+4	66	220
65	+4	61	400
60	+4	56	730

References

1. Swing, J. W. and Pies, D. P., "Assessment of Noise Environments Around Railroad Operations," Wyle Laboratories Research Report No. WCR 73-5, July 1973.

* Note that per direction given in Table 1 under "Passenger Trains Only," when the traffic consists of both passenger and freight operations, all operations should be treated as freight operations.

APPENDIX D

Results of County Noise Survey

The County Noise Survey consisted of the monitoring of a number of noise sources throughout San Benito County by a portable sound level meter. Noise level readings at each site were recorded over a thirty minute period of time broken down into five minute increments. Maximum noise levels were recorded for each of the five minute increments separately with subjective average noise levels noted by an observer.

STATION 1 - LOCATION: Entrance to Granite Rock Logan Quarry, Quarry Road, Aromas

TIME START: 10:55 a.m.

TIME STOP: 11:25 a.m.

DATE: 8-12-80

Time Interval	Maximum	Average
0-5	81	79
5-10	80	68
10-15	76	66
15-20	76	67
20-25	81	66
25-30	82	69

STATION 2 - LOCATION: Highway 156 and U.S. Route 101 Intersection, 100 feet west of U.S. Route 101 northbound onramp

TIME START: 1:30 p.m.

TIME STOP: 2:00 p.m.

DATE: 8-12-80

Time Interval	Maximum	Average
0-5	81	60
5-10	79	55
10-15	80	53
15-20	83	59
20-25	81	55
25-30	79	58

STATION 3 - LOCATION: Bolsa (Highway 25) at Shore Road

TIME START: 9:00 a.m.

TIME STOP: 9:30 a.m.

DATE: 8-13-80

Time Interval	Maximum	Average
0-5	76	55
5-10	88	58
10-15	87	60
15-20	85	60
20-25	79	63
25-30	83	61

STATION 4 - LOCATION: Union Road opposite Teledyne McCormick Selph

TIME START: 7:45 a.m.

TIME STOP: 8:15 a.m.

DATE: 8-13-80

Time Interval	Maximum	Average
0-5	77	45
5-10	79	45
10-15	75	42
15-20	79	43
20-25	73	42
25-30	71	43

STATION 5 - LOCATION: Highway 156 opposite Lucy Brown Road

TIME START: 7:05 a.m.

TIME STOP: 7:35 a.m.

DATE: 8-13-80

Time Interval	Maximum	Average
0-5	83	55
5-10	85	60
10-15	83	62
15-20	77	61
20-25	85	62
25-30	82	62

STATION 6 - LOCATION: HOLLISTER AIRPORT - End of North Runway on Hwy 156

TIME START: 2:25

TIME STOP: 2:55

DATE: 8-12-80

Time Interval	Maximum	Average
0-5	84	52
5-10	85	60
10-15	86	56
15-20	83	55
20-25	81	56
25-30	79	55

STATION 7 - LOCATION: Granite Rock Quarry and Batchplant, Hospital Road (Reading taken from bank of Hospital Road opposite site)

TIME START: 3:10

TIME STOP: 3:40

DATE: 8-12-80

Time Interval	Maximum	Average
0-5	80	57
5-10	59	53
10-15	60	45
15-20	71	45
20-25	73	44
25-30	70	45

STATION 8 - LOCATION: Airline Highway (Highway 25)/Fairview Intersection

TIME START: 8:20 a.m.

TIME STOP: 8:50 a.m.

DATE: 8-13-80

Time Interval	Maximum	Average
0-5	70	40
5-10	70	42
10-15	67	38
15-20	69	40
20-25	71	42
25-30	73	41